

Application No: 10/782,570
Amendment Dated: May 12, 2006
Reply to Office Action of February 14, 2006
REPLACEMENT SHEET

axmi007	-----MNQNNNNEYEIIDSKNLSYSPSNRNIDHSRYPTNNPNQPLQNTNYKEWLNMCQGN	55
cry1Aa	-----MDNNPNINECIPYN---CLSNPE-----VEVL	24
cry1Ac	-----MDNNPNINECIPYN---CLSNPE-----VEVL	24
cry1Ia	-----MKLKNQDKHQSFSSNAKVDKISTDS---LKNETDIELQINIHEDCLKMSEYE	49
cry3Aa1	MIRKGGRRKMNNRSEHDTIKTTENNEVPTNHVQYPLAETPNPTLEDLNYKEFLRMTADN	60
cry3Ba	MIRMGGRKMNNRSEYDTIKVTPNSELPTNHNQYPLADNPSTLEELNYKEFLRMTADN	60
cry4Aa	---MNPYQNKNEYETLNASQKKLNISN--NYTRYPIENSPKQLLQSTNYKDWLNMCQQN	54
cry6Aa	-----	
cry7Aa	-----MNLNLD--GYEDSNRTLNNSLNYP---TQKALSPSLKMNMYQDFLSITERE	47
cry8Aa	-----MSPNNQNEYEIIDATPSTSVSSDSNRYPFANEPTDALQNMNYKDYLKMSGGE	52
cry10Aa	---MNPYQNKNEYEIFNAPSNGFSKSN--NYSRYPLANKPNQPLKNTNYKDWLNVCQDN	54
cry16Aa	---MHYYGNRNEYDILNASSNDSNMSN--TYPRYPLANPQQDLMQNTNYKDWLNVCQDN	54
cry19Ba	---MNSYQNKNEYEILDAKRNTCHMSN--CYPKYPLANDPQMYLRNTHYKDWLNVCQDN	54
cry24Aa	---MNQYQNKNEYEILESSQNNMMPN---RYPFADDPNAVMMKNGNYKDWVNECEGS	51
axmi007	TQYGDNFETFASADTIAAVSAGTIVSGTLLAGIGGLTSISGPIGIIGAIISFGTLITVF	115
cry1Aa	G-----GERIETGYTPIDISLSLTQFLLEF-VPGAGFVLG-----LVDIIGWIF	68
cry1Ac	G-----GERIETGYTPIDISLSLTQFLLEF-VPGAGFVLG-----LVDIIGWIF	68
cry1Ia	N-----VEPFVS-ASTIQTGIGIAGKILGTLGVFPFAGQVAS-----LYSFILGEL	93
cry3Aa1	N-----TEALDSSTTKDVIQKGISVVGDLGVLGVFPFAGALVS-----FYTNFLNTI	107
cry3Ba	S-----TEVLDSSTVKDAVGTGISVVGQILGVGVFPFAGALTS-----FYQSFLNAI	107
cry4Aa	QQYGGDFETFIDSG---ELSAITIVVGTVLTGFGFTTPLG-----LALIGFGTLIPVL	104
cry6Aa	-----MIIDSKTTLPRHSLIHTIKLNSNKKYGPDMTN-----GNQFIIS	40
cry7Aa	Q-----PEALASGNTAINTVVSVTGATLSALGVPGASFITN-----FYLKIAGLL	92
cry8Aa	NP-ELFGNPETFIS-SSTIQTGIGIVGRILGALGVFPFASQIAS-----FYSFIVGQL	102
cry10Aa	QQYGNNAAGNFASSETIVGVSAIIVVGTMLGAFAPVLAAG-----IISFGTLLPIF	106
cry16Aa	H-----IENPREASVRAGLGKGLGIVSTIVGFFGGSIIIDLTIG-----LFYQISELL	101
cry19Ba	S-----YASSGPSQL---FKVGSIVAKILG-----MIPEVGP-----LLSWMVSLF	93
cry24Aa	N-----ISPSPAAITSKIVSIVLKTAKAVASSLAD-----SIKSSLG	90
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axmi007	WPAGEQDKTVWTQFIKMGEIFVDTPLTESIKQLKLQTLLEGFRQILQ---SYNTALDDWRK	172
cry1Aa	GPS--Q---WDAFPVQIEQLINQRIEEFARNQAISRLEGLSNLYQ---IYAESFREWEA	119
cry1Ac	GPS--Q---WDAFLVQIEQLINQRIEEFARNQAISRLEGLSNLYQ---IYAESFREWEA	119
cry1Ia	WP---KGKNQWEIFMEHVEEIIINQKISTYARNKALTDLKGLGDALA---VYHDSLESWVG	147
cry3Aa1	WPS--E--DPWKAFMEQVEALMDQKIADYAKNKALAEQGLQNNVE---DYVSALSSWQK	160
cry3Ba	WPS--DA-DPWKAFMAQVEVLIDKKIEEYAKSKALAEQGLQNNFE---DYVNALDSWKK	161
cry4Aa	FPAQDQS-NTWSDFITQTKNIKKIEASTYISNANKILNRSFNVIS---TYHNHLKTWE-	159
cry6Aa	KQE-----WATIGAYIQTGLGLPVNEQQRLRTHVNLSQDISIPSDFSQLYDVYCS----	89
cry7Aa	WPE--NGKI-WDEFMTEVEALIDQKIEEYVRNKAIAELDGLGSALD---KYQKALADWL	146
cry8Aa	WPS--KSVDIWGEIMERVEELVDQKIEKYVKDKALAEKGLGNALD---VYQQSLEDWLE	157
cry10Aa	WQGS DPA-NVWQDLLNIGGRPIQ-EIDKNIINVLTSIVTPIKNQLD---KYQEFFDKWEP	161
cry16Aa	WPEDDTQQYTQDIMNHVEDLIDKRITVIRGNARITLADLQKQVD---DYNWLKWKWD	158
cry19Ba	WPTIEEKNTVWEDMIKYVANLLKQELTNDTLNRATSNLSGLNESLN---IYNRALAAWKQ	150
cry24Aa	ISKTITENNVSQVSMVQVHQIINRRIQETILDLGESSLNLGLVAIYNR---DYLGALEAWN	148
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Fig. 1A

Fig. 1B

Application No: 10/782,570
Amendment Dated: May 12, 2006
Reply to Office Action of February 14, 2006
REPLACEMENT SHEET

axmi007	REIYTTEINFDRPLYL-----EIQPNLAIMEYNLTRSGLRLFSFLDELIFYTKNETYG	396
cry1Aa	REIYTNPVLENFDGS-----FRG--MAQRIEQNIRQPHLMDILNSITIYTDVHRGF	313
cry1Ac	REIYTNPVLENFDGS-----FRG--SAQGIERSIRSPHLMDILNSITIYTDHARGY	313
cry1Ia	REVYTDAGTVHPHPSFTSTTWYNNNAPSFSFAIEAAVVRNPHLLDFLEQVTIYSLLS--R	350
cry3Aa1	RDVLTDPIVGVNNLR-----GYGTTFSNIEN-YIRKPHLFDYLHRIQFHTRFQPGY	358
cry3Ba	RDIFTDPIFTLNALQ-----EYGPTFSSNIEN-SIRKPHLFDYLRGIEFHTRLRPGY	359
cry4Aa	REIY-QVLNFEESPYK-----YYD--FOYQEDSLTRR-PHLFTWLDLSLNFYEKAQTP	376
cry6Aa	KELLEKVKNLKTTTLER-----TIKAEQDLEKKVEYSFLLGPLLGFFVVEILEN	270
cry7Aa	REVYTDPVLSISNP-----DIGPSFSQMENTAIRTPHLVDYLDDELYIYTSKYKAF	342
cry8Aa	RDVYTDPIAFNIVTSTGFCNPWSTHSGILFYEVENNVRPPHLFDILSSVEINTSRGGIT	362
cry10Aa	REVY---TNVNSDTRF-----TIT---ELENGLTRN-PTLFTWINQGRFYTRNSRDI	358
cry16Aa	REIYSDVINGEIIYGLM-----TPYFSFEKAESLYTRA-PHLFTWLKGFRTVNSISYW	357
cry19Ba	REIYSDVINDHVYGLM-----VPYISFEHAESLYTRR-PHAFTWLKGFRTVNSINSW	350
cry24Aa	RKIYTDVPGRTDSPSFG-DWTNTGRTLNFNDLEREVTDSPSLVKWLGDMTIYTGAI	351
	...	:
axmi007	NRLVGIAN-RNRSTYATTGTEIIYGERTGPPTT-KTLIPFESYKVSIVTDRQVTP	454
cry1Aa	N-----YWSGHQITASPVGFGSGPEFAFPLFGNAGNAAPP-VLVSLTGLGIFRTLSSP	364
cry1Ac	Y-----YWSGHQIMASPVGFGSGPEFTFPLYGTMGNAAPQQRIVAQLGQGVYRTLSST	365
cry1Ia	WSNTQYMN-MWGGHKLEFRTIGGTNLNSTQ---GSTNTSINPVTLPTSRDVYRTE	405
cry3Aa1	YGNDSTFN--YWSGNYVSTRPSIGSNDIITSPFYGNKSSEPVQ--NLEFNGEKVYRAVANT	414
cry3Ba	SGKDSFN--YWSGNYVETRPSIGSNDITSPFYGDKSIEPIQ--KLSFDGQKVYRTIANT	415
cry4Aa	NNFFTSHY-NMFHYTLDNISQKSSVFGNHNVT-DKLKSLGLATNIYIFLLNVLISL	434
cry6Aa	TAVQHIKN--QIDEIKKQLDSAQHDLDLDRVKIIGMLNSINTDIDNLYSQGEAIKVFQKL	328
cry7Aa	SHEIQPDLFYWSAHKVSFKKSEQSN-LYTTGIYKTSYGYISS-GAYSFGHNDIYRTLAAP	400
cry8Aa	LNNDAYIN-YWSGHTLKYRRTADSTVITYA---NYGRITSEKNSFALEDRLDIFEINSTV	417
cry10Aa	LDPYDIFS-FTGNQMAFTHTNDDRNIIWGAHVH-NIISQDTSKVFPFYRNKPIDKVEIVR	416
cry16Aa	TFLSGGQN-KYSYTN-NSSINEGSFRGQDTEYGGTSSSTINIPSNYSVYNLWTENY	415
cry19Ba	TFLSGGEN-RYFLTHGEGTIYNGPFLGQDTEYGGTSSYIDISNNSSIYNLWTKNYEWIYP	409
cry24Aa	RPTSPGDRIGVWYGNINAFYHTGRTDVVMFRQTGDTAYEDPSTFISNILYDDIYKLDLRA	411
axmi007	N-IYFTINQIELYLNNSP--SNKLTYSAGGNLSNDKKTDFQFPVKKDKCPPII--NP	509
cry1Aa	---LYRRIILGSGPNNQELFVLDGTEFSFASLTTLNLPSTIYRQRTVDSL	421
cry1Ac	---LYRRPFN-IGINNQQLSVLDGTEFAYG-TSSNLP	420
cry1Ia	GLNLFLTQPVNGVPRVDFHWKFVTHPIASDNFYYPGYAGIG--TQLQDSENELPPEATGQ	463
cry3Aa1	NLAVWP-SAVYSGVTKEVFSQYNDQTDEASTQTYDSKRN-VGAV-SWDSIDQLPPETTDE	471
cry3Ba	DIAAFPDKIYFGVTKVDFSQYDDQKNETSTQTYDSKRY-NGYLGAQDSIDQLPPETTDE	474
cry4Aa	N-DYNNISKMDFFITNGTRLLEKELTAGSGQITYDVNKNIFGLPILKRRENQ--NPTLF	491
cry6Aa	QGIWATIGAQIENLRTTSLQEVQDSDDADEIQIELEDASDAWLVAQEAR	379
cry7Aa	SVVVYPYTQN-YGVEQVEFYGVKGHVHYRGDNKYDL-----TYDSIDQLPPDGE--	448
cry8Aa	ANLANYQKAYGVPGSWFHVMKRGTSSTAYLYSKTHTALQCTQVYESSDEIPLDRT-V	476
cry10Aa	HREYSIIYEMIFFSNSS--EVFRYSSNSTIENNYKRTDSYMIKQTWKN-----	464
cry16Aa	WGDPVNITKMNFSVTDNN--SSKELIYGAHRTNKPVVRTDFDFTLNKEGTE-----L	465
cry19Ba	WTDPVNITKINFISITDNS--NSSESIYGAERMNKPTVRTDFNLLNRAGNG-----P	459
cry24Aa	AAVSTIQGAMDTTFGVSSSRFFDIRGNQLYQSNKPYPSPLPITITFPGEESSE-----	464

Fig. 1C

Application No: 10/782,570
Amendment Dated: May 12, 2006
Reply to Office Action of February 14, 2006
REPLACEMENT SHEET

axmi007	PSYNSYSHILSQFSLFNYSYKIGLALNILYTGALGWITHSSVNRNNAISDKIITMIPAIGK	569
cry1Aa	PPRAGFSHRLSHVMTLSQAAG---AVYTLRAPTFWSQHRSAEFNNIIPSSQITQIPLTKS	478
cry1Ac	PPRQGFSHRLSHVSMFRSGFSNS-SVSIIRAPMFWSIHRSAEFNNIIASDSITQIPAVKG	479
cry1Ia	PNYESYSHRLSHIGLISASHVK--ALVYS-----WTHRSADRTNTIEPNSITQIPLVKA	515
cry3Aa1	PLEKGYSHQNLNYVMCFLMQGSR-----GTIPVLTWTHKSVDFFNMIDSKKITQLPLVKA	525
cry3Ba	PLEKAYSHQNLNYAECFLMQDRR-----GTIPFFTWTWTHRSVDFFNTIDAEDITQLPVVKA	528
cry4Aa	PTYDNYSHILSFIKSLSIP-----ATYKTQVYTFAWTHSSVDPKNTIYTHLTQIPAVKA	546
cry6Aa	-----FTLNAYSTNSRQNLPINVISDSCNCST	406
cry7Aa	PIHEKYTHRLCHATAIFKSTP---DYDNATIPIFSWTHRSAEYNNRIYPNKITKIPAVKM	505
cry8Aa	PVAESYSHRLSHITSHSFSKNG--SAYYGSFPVFWTHTSADLNNTIYSDKITQIPAVKG	534
cry10Aa	---EEYGHTLSYIKTDNYIFS---VVRERRRVAFSWTHTSVDFFQNTIDLNDITQIHALKA	518
cry16Aa	AKYNDYNHILSYMLINGETFG-----QKRHGYSFAFTHSSVDPNNTIAANKITQIPVVK	520
cry19Ba	TTYNDYNHILSYMLINGETFG-----QKRHGYSFAFTHSSVDYNTIVDPKIVQIPAVKT	514
cry24Aa	GNANDYSHLLCDVKILQEDSSN-ICEGRSSLLSHAWTHASLDRNNTILPDEITQIPAVTA	523
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axmi007	NSLDTNSKVIEGPGHTGGNLVYLQSQGR-----LEITCRTPNSTQSYIIRLRYATNGA	622
cry1Aa	TNLGSGTSSVVKGPFGFTGGDILRRTSPGQISTLRVNITAPL-----SQRYRVRIRYASTTN	533
cry1Ac	NFLFNG-SVISGPGFTGGDLVRLNSSGNNIQNRGYIEVPIHFPSTSTRYRVRVRYASVTP	538
cry1Ia	FNLSSGAAVVRGPGFTGGDILRRTNTGTFGDIRVNINPPF-----AQRYRVRIRYASTTD	570
cry3Aa1	YKLQSGASVVAGPRFTGGDIIQCTENG----SAATIIYVTP-DVSYSQKYRARIHYASTSQ	580
cry3Ba	YALSSGASIIIEGPGFTGGNLLFLKESSN---SIKFKVTLNSAALLQRYRVRIRYASTTN	585
cry4Aa	NSLGTASKVVQGPFGHTGGDLIDFKDH-----FKITCQHSNFQQSYFIRIRYASNGS	597
cry6Aa	TNMTSNQYSNPTTNMTS-----NQYMSISHEYTSLPN	437
cry7Aa	YKLDDPSTVVVKGPFGFTGGDLVVRGSGTYIGDIKATVNSPL-----SQRYRVRVRYATNVS	560
cry8Aa	DMLYLGGSVVQGPFGFTGGDILKRTNPSILGTFAVTVNGSL-----SQRYRVRIRYASTTD	589
cry10Aa	LKVSSDSKIVKGPFGHTGGDLVILKDSMD-----FRVRFLKN-VSRQYQVRIRYATNAP	570
cry16Aa	SSINGSISIEKGPFGFTGGDLVKMRADSG-----LTMRFKAELLDKKYRVRIRYKCNYS	573
cry19Ba	NLVG--ANIIKGPFGHTGGDLLKLEYERF-----LSLRIK-LIASMTFRIRIRYASNIS	564
cry24Aa	YELRGNSSVVAGPGSTGGDLVKMSYHS-----VWSFKVYCELSKNYRVRIRYASHGN	575
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axmi007	GNTLPNISLTIPGVIGIPPQRLNNTFSGTNYNNLQYGDGFGYFQFPSTVTLPLNR--NIPF	680
cry1Aa	LQFHTSIDGRPINQGNFS-----ATMSSGSNLQSGSFRTVGFTTTPFNFSNGS---SVF	583
cry1Ac	IHLNVNWNSSIFSNTVP-----ATATSLDNLQSSDFGYFESANAFTSSLGN-----	585
cry1Ia	LQFHTSINGKAINQGNFS-----ATMNRGEDLDYKTFRTVGFTTTPFSFLDVQ---STF	620
cry3Aa1	ITFTLSLDGAPFNQYFYD-----KTINKGDTLTYSFNLASFSTPFELSG-----NNL	628
cry3Ba	LRLFVQNSNNDLVIYIN-----KTMNIDGDLTYQTFDFATSNSNMGFSGDT---NDF	635
cry4Aa	ANTRAVINLSIPGVAELG-MALNPFTSGTDYTNLKYKDFQYLEFSNEVKFAPNQ--NISL	654
cry6Aa	NFMLSRNSNLEYKCPENN-----FMIYWYNNNSDWYNNNSDWYNN-----	475
cry7Aa	GQFNVIYINDKITLQTKFQN---TVETIGEGKDLTYGSFGYIEYSTTIQFPDEH---PKI	613
cry8Aa	FEFTLYLG-DTIEKNRFN-----KTMNGASLTETFKFASFITDFQFRETQ---DKI	638
cry10Aa	KTTVFLTIGIDTISVELPS---TTSRQNPATDLTYADFGYVTFPRTVPNKTFEGEDTLL	626
cry16Aa	SKLILRKWKGEYIQQQI-----HNISPTYGAFSYLESTITTENIFDLTME-VTYPY	626
cry19Ba	GQMMINIGYQNPTYFNII-----PTTSRDYTELK-FEDFQLVDTSYIYSGGPS-ISS--	614
cry24Aa	CQFLMKRWPSTGVAPRQWAR---HNVQGTFSNSMRYEAFKYLDIFTITPEENN-----	626

Fig. 1D

Application No: 10/782,570
Amendment Dated: May 12, 2006
Reply to Office Action of February 14, 2006
REPLACEMENT SHEET

axmi007	IFNRADVSN-SILIIDKIEFIPITSSVRQNREKQKLETIQTKINTFFTNHTKNTLNIEAT	739
cry1Aa	TLSAHVFNSGNEVYIDRIEFVPAEVTFEA---EYDLERAQKAVNELFTSSNQIGLKTDTV	640
cry1Ac	IVGVNRFSGTAGVIIDRFEFIPVTATLEA---EYNLERAQKAVNALFTSTNQLGLKTNVT	642
cry1Ia	TIGAWNFSGNEVYIDRIEFVPVEVTYEA---EYDFEKAQEKVTALFTSTNPRGLKTDVK	677
cry3Aa1	QIGVTGLSAGDKVYIDKIEFIPVN-----	652
cry3Ba	IIGAESFVSNEKIYIDKIEFIPVQ-----	659
cry4Aa	VFNRSDVYTNTTVLIDKIEFLPITRSIREDREKQKLETVQOIINTFYANPIKNTLQSELT	714
cry6Aa	-----	
cry7Aa	TLHLSDLNNSSFYVDSIEFIPVDVNYAE---KEKLEKAQKAVNTLFTE-GRNALQKDVT	669
cry8Aa	LLSMGDFSSGQEVYIDRIEFIPVDETYEA---EQDLEAAKKAVNALFTNTKD-GLRPGVT	694
cry10Aa	MTLYGTPNHSYNIYIDKIEFIPITQSVLDYTEKQNIKTQKIVNDLFIN-----	675
cry16Aa	GRQFVEDIPS--LILDKIEFLPTN-----	648
cry19Ba	NTLWLDNFSNGPVIIDKIEFIPLGITLNQAQGYDTYDQANGMYHQNYNSNGYNYNQEYN	674
cry24Aa	-AFTIDLESGGDLFIDKIEFIPVSGSAFEYEGKQNIKTQKAVNDLFIN-----	674
axmi007	NYDID-----	744
cry1Aa	DYHIDQVSNLVECLSDEFCLDEKQELSEKVKHAKRLSDERNLLQDPNFRGINRQLDRGWR	700
cry1Ac	DYHIDQVSNLVTYLSDEFCLDEKRELSEKVKHAKRLSDERNLLQDSNFKDINRQPERGWG	702
cry1Ia	DYHIDQVSNLVESLSDEFYLDEKRELFEIVKYAKQLHIERNM-----	719
cry3Aa1	-----	
cry3Ba	-----	
cry4Aa	DYDIDQAANLVECISEELYPKEKMLLLDEVKNKQLSQSRNVLQNGDFE---SATLGWT	770
cry6Aa	-----	
cry7Aa	DYKVDQVSILVDCISGDLYPNEKRELQNLVKYAKRLSYSRNLLDPTFDSINSSEENGWY	729
cry8Aa	DYEVNQAANLVECLSDDLYPNEKRLLFDVREAKRLSGARNLLQDPDFQEIENG--ENGWA	752
cry10Aa	-----	
cry16Aa	-----	
cry19Ba	TTYQSYNN-----	682
cry24Aa	-----	

Fig. 1E